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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/001,945

11/01/2001

Gary L. Olson

PPI-106CP2

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959

7590

02/18/2005

LAHIVE & COCKFIELD, LLP.  
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BOSTON, MA 02109

EXAMINER

RUSSEL, JEFFREY E

ART UNIT

PAPER NUMBER

1654

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/001,945

**Applicant(s)**

OLSON ET AL.

**Examiner**

Jeffrey E. Russel

**Art Unit**

1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20041026;20040520.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Art Unit: 1654

1. Applicant's election with traverse of the peptide of SEQ ID NO:16 in the reply filed on December 16, 2004 is acknowledged. The traversal is on the ground(s) that the peptide sequences all have the same design and operation, and therefore there would be no undue burden upon the examiner to search all of the claimed peptide sequences. This is not found persuasive because the peptide sequences all have different amino acid sequences, and regardless of their common intended end use, different amino acid searches would be required to search the claimed peptide sequences. This additional searching constitutes an undue burden upon the examiner. It should be noted that in this application, as in both parent applications 09/972,772 and 09/704,251, the examiner has restricted among the claimed peptide sequences and has not imposed an election of species requirement. The same type of restriction requirement has been imposed in all three of the applications.

The requirement is still deemed proper and is therefore made FINAL.

2. The Sequence Listing filed June 17, 2003 is approved.
3. The preliminary amendment to the specification filed June 17, 2003 has not been entered because the paragraph of the specification to be amended has not been correctly identified in the amendment instruction. The paragraph to be amended is located at page 15, lines 3-13.
4. The disclosure is objected to because of the following informalities: The status of the parent application at page 1, line 9, of the specification should be updated. The paragraph at page 15, lines 3-13, and the Tables at page 61 of the specification need to be amended in order to reflect the new SEQ ID NOS as set forth in the Sequence Listing filed June 17, 2003. Appropriate correction is required.

Art Unit: 1654

5. Claims 11-14, 19, 21, 34, 40, 41, 47, 56, and 57 are objected to because of the following informalities: At claim 11, lines 2 and 3, "substituted or unsubstituted azacycloalkyl" is repeated. Claims 19, 34, and 41 do not end with periods. At claim 21, line 1, the second occurrence of "Z is" should be deleted. At claim 40, last line, the end parenthesis after "amino" is unmatched. At claim 47, line 1, and claim 56, line 1, "the a" should be changed to "a". At claim 57, page 80, line 31, the beginning parenthesis before "3-" does not match the end bracket after "enyl". At claim 57, page 81, lines 1-23, the ID#'s should be not occur in the middle of the compound names. Appropriate correction is required.

6. Claim 39 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Dependent claim 39 recites that D can be a cyclic C<sub>1-6</sub>-alkyl.

However, claim 34, upon which claim 39 depends, does not indicate that D can be a cyclic alkyl.

7. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

8. Claims 23, 24, 28, 29, 49, 50, and 58-61 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 4, 5, 9, 10, 30, 31, and 39-42 of prior U.S. Patent No. 6,548,477.

This is a double patenting rejection.

Art Unit: 1654

9. Claims 1-65 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-61 and 64-67 of copending Application No. 10/429,174. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-10, 20-22, 25-27, 30-48, 51-57, and 62-65 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-52 of U.S. Patent No. 6,548,477. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '477 patent anticipate the instant claims.

12. Claims 1-10 and 20-65 are directed to an invention not patentably distinct from claims 1-52 of commonly assigned U.S. Patent No. 6,548,477. Specifically, see the obviousness-type double patenting rejection set forth in section 11 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302).

Commonly assigned U.S. Patent No. 6,548,477, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as

Art Unit: 1654

prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

13. Claims 1-10 and 20-65 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-43, 45-48, and 50-61 of copending Application No. 09/972,772. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '772 application anticipate the instant claims. Note that a composition comprising a compound anticipates claims drawn to the compound per se.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 1-10 and 20-65 are directed to an invention not patentably distinct from claims 1-52 of commonly assigned copending Application No. 09/972,772. Specifically, see the obviousness-type double patenting rejection set forth in section 13 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302).

Art Unit: 1654

Commonly assigned copending Application No. 09/972,772, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

15. Claims 1-10, 20-58, 61, 62, and 65 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 20-58, 60, 62, 71, and 74-84 of copending Application No. 10/138,935. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '935 application anticipate the instant claims. Note that a process of using a compound anticipates claims drawn to the compound per se.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claims 1-10, 20-58, 61, 62, and 65 are directed to an invention not patentably distinct from claims 20-58, 60, 62, 71, and 74-84 of commonly assigned copending Application No. 10/138,935. Specifically, see the above provisional obviousness-type double patenting rejection.

Art Unit: 1654

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302).

Commonly assigned copending Application No. 10/138,935, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

17. Claims 1-10, 20-59, 61-63, and 65 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 74-132 of copending Application No. 10/962,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '333 application anticipate the instant claims. Note that a process of using a compound anticipates claims drawn to the compound per se.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.



Art Unit: 1654

18. Instant claims 1-19, 57, and 62-65 are not deemed to be entitled under 35 U.S.C. 120 to the benefit of the filing date of parent application 09/972,772 because the parent application, under the test of 35 U.S.C. 112, first paragraph, does not disclose compounds having the full scope of Formula I, including the  $(X)_n-CR_3R_4$  group; does not disclose compounds in which Z is O or  $NR_8$ ; does not disclose compounds in which P is  $OR_5$  in which  $R_5$  is other than hydrogen or alkyl; does not disclose compounds in which P is  $N(R_6)R_7$  in which  $R_6$  or  $R_7$  are other than hydrogen or alkyl or in which neither of  $R_6$  and  $R_7$  is hydrogen; does not disclose compounds in which P is alkyl; does not disclose the P groups of instant claim 19; and does not disclose the specific compounds of claim 57 beginning at page 81, line 40, and continuing through page 82, line 22.

Claims 20-56 and 58-61 are deemed to be entitled under 35 U.S.C. 120 to the benefit of the filing date of parent applications 09/972,772 and 09/704,251 because the parent applications, under the test of 35 U.S.C. 112, first paragraph, disclose the claimed invention (see originally-filed claims 1-37 and 39-42 in the '772 application, and originally-filed claims 1-37 and 39-42 in the '251 application).

Because U.S. Patent No. 6,548,477, which issued based upon parent application 09/704,251, has a different inventorship than the instant application and has an earlier effective filing date than claims 1-19, 57, and 62-65 of the instant application, the '477 patent is available as prior art against instant claims 1-19, 57, and 62-65 under 35 U.S.C. 102(e).

Because U.S. Patent Application Publication 2002/0193298, which is the published version of parent application 09/972,772, has a different inventorship than the instant application and has an earlier effective filing date than claims 1-19, 57, and 62-65 of the instant application,

Art Unit: 1654

the '298 published application is available as prior art against instant claims 1-19, 57, and 62-65 under 35 U.S.C. 102(e).

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

For the purposes of this invention, the level of ordinary skill in the art is deemed to be at least that level of skill demonstrated by the patents in the relevant art. Joy Technologies Inc. v. Quigg, 14 USPQ2d 1432 (DC DC 1990). One of ordinary skill in the art is held accountable not only for specific teachings of references, but also for inferences which those skilled in the art

Art Unit: 1654

may reasonably be expected to draw. In re Hoeschele, 160 USPQ 809, 811 (CCPA 1969). In addition, one of ordinary skill in the art is motivated by economics to depart from the prior art to reduce costs consistent with desired product properties. In re Clinton, 188 USPQ 365, 367 (CCPA 1976); In re Thompson, 192 USPQ 275, 277 (CCPA 1976).

20. Claims 1-10, 57, and 62-65 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,548,477. See the above obviousness-type double patenting rejection.

21. Claims 1-10, 57, and 62-65 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0193298. The U.S. Patent Application Publication '298 is the published equivalent of copending Application No. 09/972,772, applied in the provisional obviousness-type double patenting rejection set forth in section 13 above, and anticipates the claims for the same reasons.

22. Claims 1, 7, 8, 20, 25-27, 30-37, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by the Griffith et al article (Proc. Natl. Acad. Sci., Vol. 95, pages 15183-15188). The Griffith et al article teaches compound 8 in Figure 2B which corresponds to Applicants' compound of formula (XV) in which the deoxyfumagillin group corresponds to Applicants' A group/MetAP-2 inhibitory core; W is O; R is H; Q is H; Z is -C<sub>2</sub>-alkylene-O-; and P is a peptide consisting of one amino acid residue, i.e. the -C(O)-(CH<sub>2</sub>)<sub>5</sub>-NH- group present in compound 8 of the Griffith et al article. The Griffith et al article's compound 8 also corresponds to Applicants' compound of formula I in which the deoxyfumagillin group corresponds to Applicants' A group/MetAP-2 inhibitory core; W is O; R<sub>1</sub> is H; (X)<sub>n</sub>-CR<sub>3</sub>R<sub>4</sub> is C<sub>3</sub> alkylene; Z is NH; and P is a peptide consisting of one amino acid residue, i.e. the -C(O)-(CH<sub>2</sub>)<sub>5</sub>-NH- group present in compound 8 of the Griffith et al article. The examiner assumes that Applicants' claims do not exclude the possibility that the P group may be modified at its N-terminus, e.g., by a group corresponding to the fluorescein group of the Griffith et al article's compound 8.

Art Unit: 1654

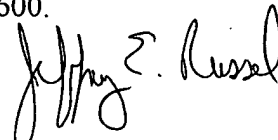
23. Claims 1, 7, 8, 62, and 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Folkman et al (U.S. Patent No. 6,017,954). Folkman et al teaches a compound in Example 28 (see also the Table at column 13) which is used to treat angiogenic diseases, including rheumatism and psoriasis. Patients can be human, and administration can be oral or by injection. See, e.g., column 12, lines 8-46. The compound of Example 28 corresponds to Applicants' compound of Formula I in which A is fumagillol; W is O; R<sub>1</sub>, R<sub>3</sub>, and R<sub>4</sub> are hydrogen; either X is methylene, n=1, Z is NR<sub>8</sub>, and R<sub>8</sub> is methyl, or n=0, Z is alkylene-NR<sub>8</sub>, and R<sub>8</sub> is methyl; and P is methyl.

24. Claim 64 is rejected under 35 U.S.C. 103(a) as being obvious over Folkman et al (U.S. Patent No. 6,017,954) as applied against claims 1, 7, 8, 62, and 63, and further in view of Yanai et al (U.S. Patent No. 5,422,363) or Folkman et al (U.S. Patent No. 6,086,865). Folkman et al '954 teaches that the compounds can be administered to treat angiogenic diseases, but do not specifically teach treatment of rheumatoid arthritis. Yanai et al teach the administration of fumagillol derivatives to treat diseases associated with angiogenesis, such as rheumatoid arthritis. See, e.g., column 9, lines 15-18 and 51-56. Folkman et al '865 teaches the administration of fumagillol derivatives to treat angiogenesis-induced diseases, such as rheumatoid arthritis. See, e.g., column 3, lines 11-15, and column 6, lines 17-20. It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to administer the compounds of Folkman et al '954 so as to treat rheumatoid arthritis, because the compounds of Folkman et al '954 are disclosed to be useful in treating angiogenic diseases in general, and because Yanai et al and Folkman et al '865 teach that rheumatoid arthritis is an angiogenic disease treatable by similar fumagillol derivatives.

Art Unit: 1654

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey E. Russel at telephone number (571) 272-0969. The examiner can normally be reached on Monday-Thursday from 8:30 A.M. to 6:00 P.M. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Bruce Campell can be reached at (571) 272-0974. The fax number for formal communications to be entered into the record is (571) 273-8300; for informal communications such as proposed amendments, the fax number (571) 273-0969 can be used. The telephone number for the Technology Center 1600 receptionist is (571) 272-1600.



Jeffrey E. Russel

Primary Patent Examiner

Art Unit 1654

JRussel

February 17, 2005